TECHNICAL MEMORANDUM

Date: June 9, 2015 **Project No.:** 013-1646-015.400.01

To: Will Ernst **Company:** The Boeing Company

From: Denise Carscadden, Golder Associates Inc.

cc: Kent Angelos, Ted Norton, Golder Associates Inc.

RE: **PLANT 2 ELECTRICAL POWER UPGRADE PHASE 3**
VAULT 28 EQUIPMENT PADS EXCAVATION COMPLETION

1.0 INTRODUCTION

The Boeing Company (Boeing) constructed an electrical transformer pad and five small electrical equipment pads in the South Yard Area of Boeing Plant 2 in Seattle/Tukwila, Washington from March 6 through May 4, 2015 (Figure 1). This work was completed under Phase 3 of the electric power upgrade project within the Vault 28 Substation area. The Vault 28 substation consists of a fenced enclosure located in the parking lot south of the 2-81 Building and west of the 2-117 Building (Figure 2). The work for the Vault 28 Substation area included placing a concrete pad over the existing concrete pad to accommodate a new transformer. Five smaller excavations were conducted to accommodate construction of five new concrete electrical equipment pads to support existing transformers.

The Vault 28 Substation construction area is located within the Plant 2 Paved Industrial Area and the entire enclosure is within the Resource Conservation and Recovery Act (RCRA) Solid Waste Management Unit (SWMU) 2-89.68, Reclamation Yard. SWMU 2-89.68 encompasses approximately 8 acres in the southeastern corner of Plant 2 (Figure 2). The reclamation yard was used for staging, sorting, and packaging recyclable materials including scrap metal shavings (aluminum, brass, steel, and copper). Coolants and oils were sometimes associated with the scrap metal shavings (Weston 2000). Two additional RCRA units, SWMU 2-91.70 and SWMU 2-78.1, are located near the Vault 28 work area but are outside the 25-foot buffer and are not be addressed in this technical memorandum.

This technical memorandum summarizes the excavation activities and provides a summary of construction support activities.

2.0 EXCAVATION

The Vault 28 enclosure is a triangular area approximately 120 feet on the north and east sides and approximately 160 feet on the southwestern side (Figure 2). The ground surface within the Vault 28 enclosure is soil covered with crushed rock. A concrete transformer pad is located in the northeast corner of the enclosure and consists of two adjacent rectangular concrete slabs of different sizes. A slightly larger concrete pad (approximately 17 feet by 7 feet) was constructed over the top of the existing

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transformer pad. Concrete for the new transformer pad was poured over the existing pad; no concrete or soil was removed in association with this portion of the project.

Five small excavations were conducted to accommodate construction of concrete equipment pads adjacent to transformers within the Vault 28 area. Excavations for the equipment pads were approximately 4 feet by 4 feet and ranged from 12 to 18 inches deep (less than 1 cubic yard [cy] for each excavation). A total of approximately 4 cy of soil were excavated from the Vault 28 area. The excavated materials were characterized and managed for re-use or disposal in accordance with standard Boeing waste handling procedures.

Groundwater was not encountered during the excavations, as the groundwater surface at Plant 2 is typically 10 to 12 feet bgs.

3.0 CONSTRUCTION AND SUPPORT ACTIVITIES

Environmental oversight, monitoring and sampling activities were conducted in accordance with Golder Associates Inc.'s (Golder's August 2013) Plant 2 General Construction Health and Safety Plan (HaSEP) and in accordance with Boeing's environmental, health and safety requirements. The support activities included monitoring excavated soils for VOCs using a photoionization detector (PID) during excavation and making visual observations. The PID air monitoring results were non-detect for volatile organic compounds (VOCs) and no impacted soils were observed or detected during field monitoring.

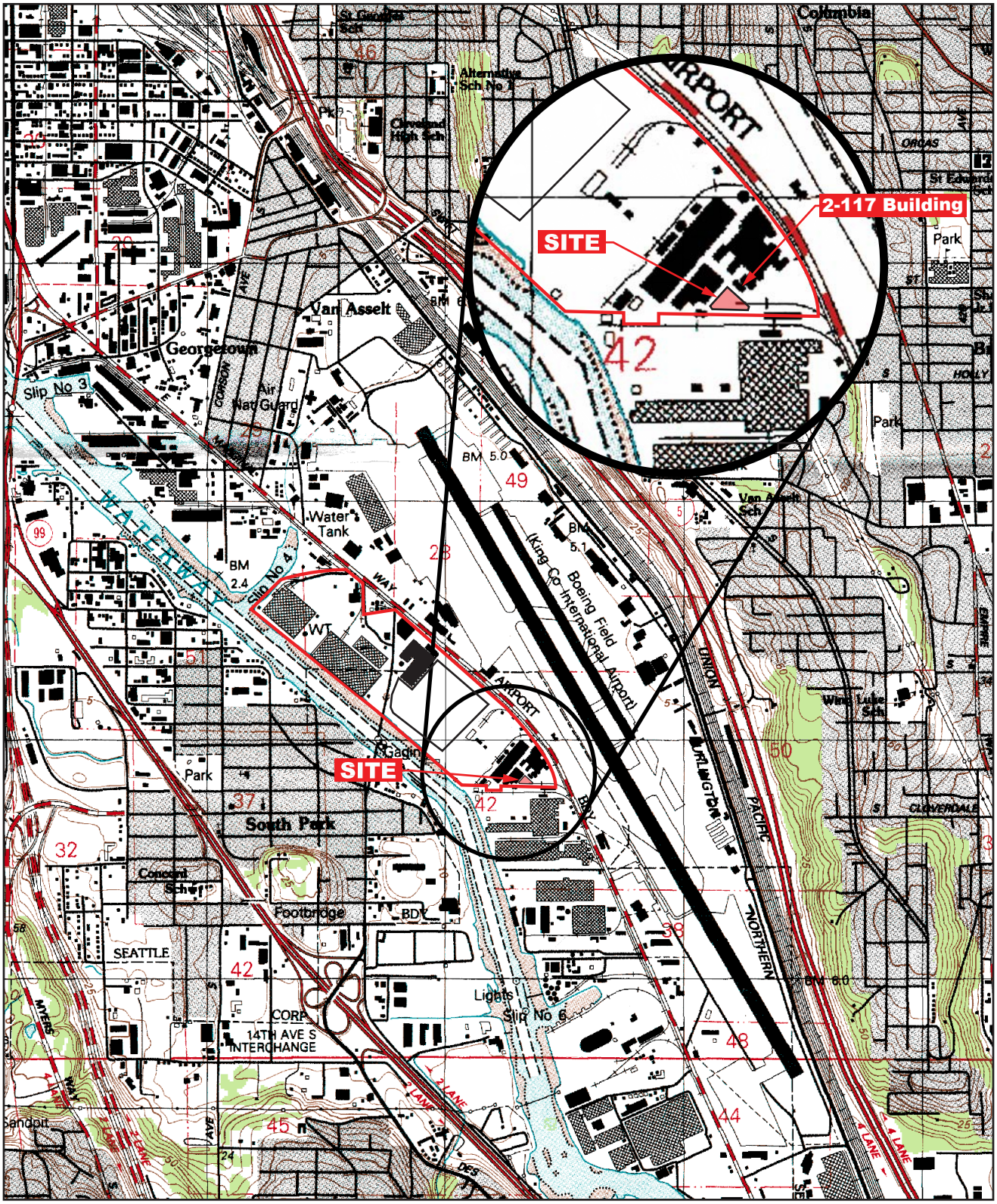
4.0 REFERENCES

Golder Associates Inc. (Golder) 2013. Boeing/Plant 2 General Construction Health, Safety and Environment Plan, Version 2, prepared for Boeing Plant 2, August 13.

Roy F. Weston, Inc. (Weston). 2000. Technical Memorandum, SWMU/AOC/OA – Specific Data Presentation, RCRA Corrective Measures Study, Boeing Plant 2, Seattle/Tukwila, Washington.

List of Figures

FIGURES



Golder Associates			
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Boeing Plant 2
Electrical Power Upgrade
Phase 3 Vaults 10 and 28
Equipment Pads Excavation
Technical Memorandum
Seattle/Tukwila, Washington

Figure 1
Vicinity Map

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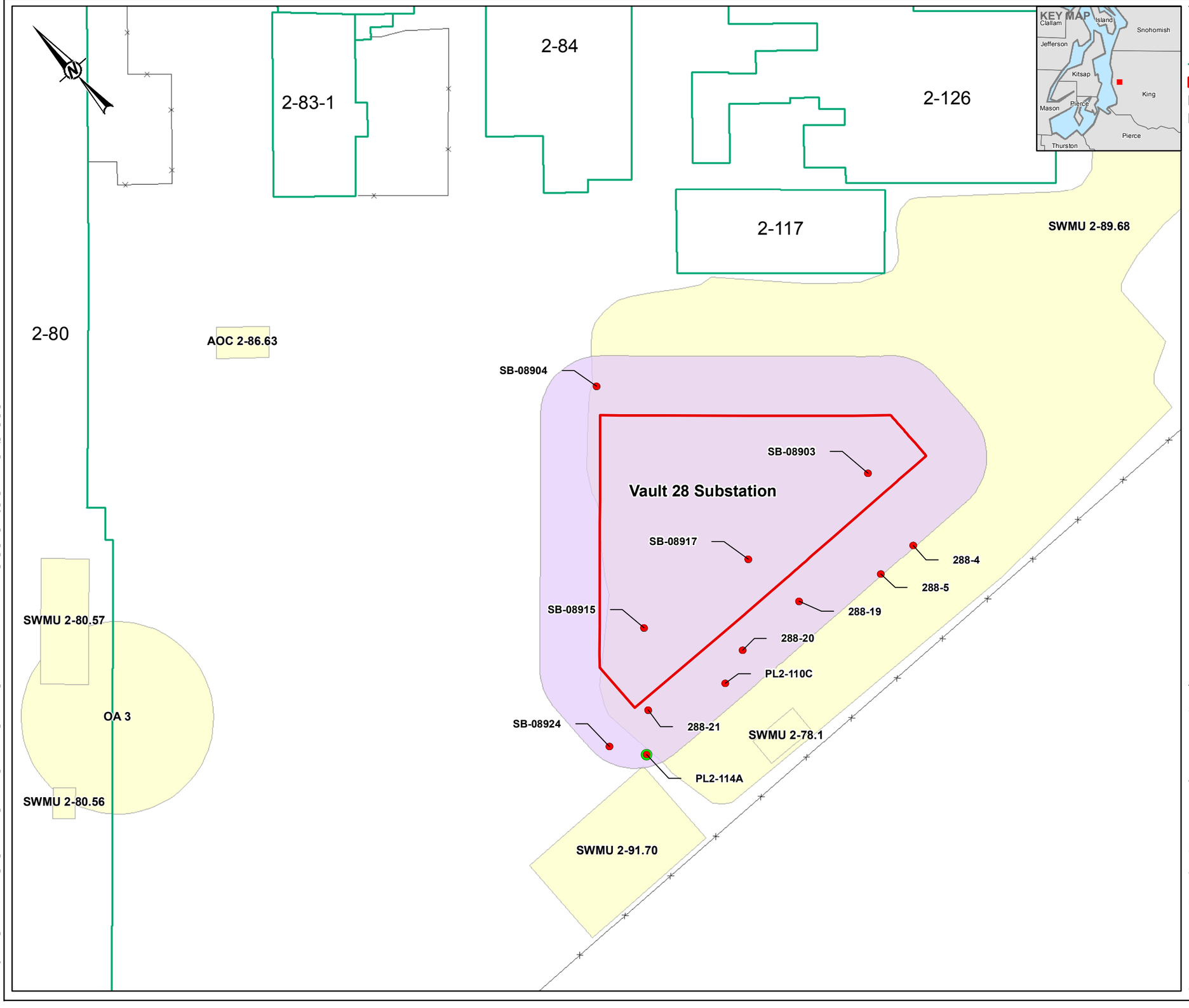

LEGEND

- Soil Sample Location
- Groundwater Sample Location
- Buildings Outline
- Building 2-117 Electrical Pads
- 25-foot Buffer
- RCRA Unit

0 20 40 80
Feet

REFERENCE(S)
1. GOLDER ASSOCIATES INC. (SAMPLE LOCATIONS)
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON NORTH FIPS 4601 FEET

CLIENT
BOEING
SEATTLE, KING COUNTY, WA

PROJECT
BOEING/PLANT 2 CMS & CONST SUPPORT

TITLE
ELECTRICAL POWER UPGRADE PHASE 3
VAULT 28 EQUIPMENT PADS EXCAVATION
HISTORICAL SOIL AND GROUNDWATER LOCATIONS

CONSULTANT
Golder Associates

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